

CLAIMS

1. An apparatus comprising:

a first circuit configured to generate a control signal in response to a measurement of inter-picture motion between a current picture and a first reference picture; and

5 a second circuit configured to select between said first reference picture and a second reference picture as a better reference picture for motion estimation in response to said control signal.

2. The apparatus according to claim 1, wherein:

a parity of said first reference picture is opposite to a parity of said current picture; and

a parity of said second reference picture is the same as
5 said parity of said current picture.

3. The apparatus according to claim 1, wherein:

a parity of said first reference picture is the same as a parity of said current picture; and

a parity of said second reference picture is opposite to
5 said parity of said current picture.

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4. The apparatus according to claim 1, further comprising:

a memory configured to store said current picture, said first reference picture and said second reference picture.

5. The apparatus according to claim 1, wherein said second circuit further comprises:

a multiplexer circuit configured to select between said first reference picture and said second reference picture.

6. The apparatus according to claim 1, further comprising:

a motion estimation circuit configured to generate one or more motion vectors in response to said better reference picture
5 and said current picture.

7. The apparatus according to claim 1, wherein said first circuit further comprises:

a circuit configured to generate a plurality of coarse motion vectors for said current picture based upon said first
5 reference picture.

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8. The apparatus according to claim 7, wherein said first circuit further comprises:

a first analysis circuit configured to generate a measurement of inter-picture motion in response to said coarse motion vectors.

9. The apparatus according to claim 8, wherein said first circuit further comprises:

a second analysis circuit configured to generate said control signal in response to said measurement of inter-picture motion.

10. The apparatus according to claim 8, wherein:
said first analysis circuit is configured to perform a cluster analysis on said coarse motion vectors.

11. The apparatus according to claim 1, wherein said apparatus is part of an encoder circuit.

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12. An apparatus comprising:

means for generating a control signal in response to a measurement of inter-picture motion between a current picture and a first reference picture; and

5 means for selecting a better reference picture for motion estimation from said first reference picture and a second reference picture in response to said control signal.

13. A method for performing motion estimation in a video encoder comprising the steps of:

generating a control signal in response to a measurement of inter-picture motion between a current picture and a first
5 reference picture; and

selecting a better reference picture for motion estimation from said first reference picture and a second reference picture in response to said control signal.

14. The method according to claim 13, wherein:

a parity of said first reference picture is opposite to a parity of said current picture; and

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a parity of said second reference picture is the same as
5 said parity of said current picture.

15. The method according to claim 13, wherein:

a parity of said first reference picture is the same as
a parity of said current picture; and

a parity of said second reference picture is opposite to
5 said parity of said current picture.

16. The method according to claim 13, further comprising
the step of:

storing said current picture, said first reference
picture and said second reference picture in a picture memory.

17. The method according to claim 13, further comprising
the step of:

generating one or more motion vectors in response to said
better reference picture and said current picture.

18. The method according to claim 13, further comprising
the step of:

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generating a plurality of coarse motion vectors for said current picture based upon said first reference picture.

19. The method according to claim 18, further comprising the step of:

generating a measurement of inter-picture motion in response to said coarse motion vectors.

20. The method according to claim 19, further comprising the step of:

generating said control signal in response to said measurement of inter-picture motion.

21. The method according to claim 19, further comprising:

performing a cluster analysis on said coarse motion vectors.

22. The method according to claim 13, wherein said current picture, said first reference picture and said second reference picture each comprise a field picture.